WHAT IS CLAIMED IS:

1. A process for machining a wafer-like workpiece between two plates, in which material is abraded from the workpiece under the influence of an auxiliary substance supplied and of a ~~weight~~ pressure acting on the workpiece, the process comprising:

reducing ~~a load from the weight~~ the pressure on the workpiece;

then increasing the ~~load~~ pressure at least once during machining of the workpiece; and

reducing a supply of the auxiliary substance as the ~~load~~ pressure is increased.

2. The process as claimed in claim 1, wherein the ~~load~~ pressure is reduced by at least 80% of its original level.

3. The process as claimed in claim 1, wherein the supply of auxiliary substance is reduced to between 0 and 50% of its original level.

4. The process as claimed in claim 1, wherein the workpiece is machined between a lower working wheel and an

upper working wheel of a double-side polishing machine, with a polishing abrasive being supplied.

5. The process as claimed in claim 1, wherein the workpiece is machined between a lower working wheel and a carrier plate of a single-side polishing machine with a polishing abrasive being supplied.

6. The process as claimed in claim 1, wherein the workpiece is machined between a lower working wheel and an upper working wheel of a lapping machine with a lapping abrasive being supplied.

7. The process as claimed in claim 1, wherein the workpiece is a semiconductor wafer.

8. The process as claimed in claim 1, wherein the workpiece is subjected to the process together with other workpieces.